

## 2. What are rocks?

The solid part of the Earth is made up of rocks. Rocks are any natural, inorganic material made up of minerals.

Some rocks are made of a single substance. They are called **monomineralic rocks**. Others can be found in liquid form, for example, oil.

### How are rocks classified?

Rocks are divided into three main classes: **igneous**, **sedimentary** and **metamorphic**.

- **Igneous rocks** are formed from cooled magma. Magma is molten rocky material below the Earth's surface.
- **Sedimentary rocks** are formed by the accumulation and compaction of sediment, for example, clay, sand or rock fragments.
- **Metamorphic rocks** are formed from other rocks by the effects of heat and pressure. Forces inside the Earth cause a "parent rock" to change into another type of rock, without melting.

Igneous rock. These rocks are formed by minerals joined together. In granite it is easy to see the various components.



Sedimentary rock. Conglomerate.



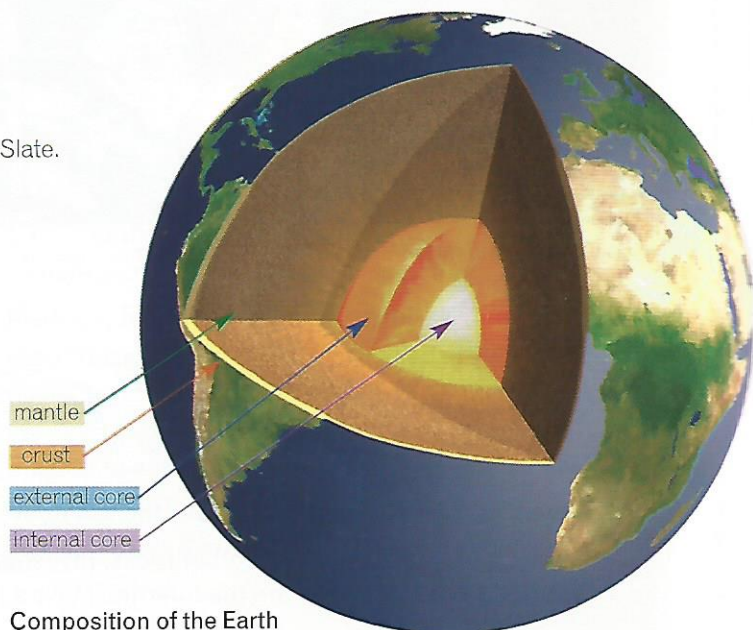
Metamorphic rock. Slate.

### *Did you know that...?*

Igneous rock is named after the Latin word "ignis" meaning "fire".

### Activities

4. What are the three types of rock? Define them in your notebook.
5. What is the difference between minerals and rocks? Check your answer by looking at Unit 10.





### 3. What are sedimentary rocks?

Sedimentary rocks are classified into three groups: detrital, chemical and organic.

**Detrital** rocks are made up of fragments of other rocks that are stuck together.

**Chemical sedimentary rocks** are made of mineral crystals from oceans, lakes and groundwater that have dissolved in water.

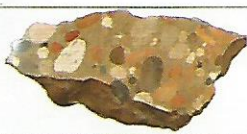




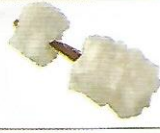
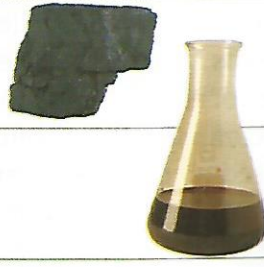
**Organic sedimentary rocks** are made of plant and animal remains which have been transformed into minerals.

#### *Did you know that...?*

Oil and coal are called *fossil fuels*. They are the most important energy resources for the planet.

#### Activities

6. Observe pieces of detrital rocks using a magnifying glass. Make drawings to show the differences you see.
7. Describe a rock from the table. Your partner guesses which one.

		Common sedimentary rocks	Formed by	Properties	
Classification of Sedimentary Rocks	Detrital	<b>Conglomerate</b>	Fragments of rock and some sand	Round or angular fragments	
		<b>Sandstone</b>	Small grains of sand	Grains break off if scratched	
		<b>Clay</b>	Very small grains	Different colours. Smells like wet earth when wet	
	Chemical	<b>Limestone</b> (Many types)	Chemical reactions. All contain calcium carbonate.	Reacts to acids by producing bubbles	
		<b>Gypsum</b>	Evaporation of the water in deposits	Very soft. Can be scratched with a fingernail	
		<b>Rock salt</b>		Tastes salty	
	Organic	<b>Coal</b>	Remains of land vegetation	Soft, black. Burns easily	
		<b>Oil</b>	Remains of marine plants and animals	Thick, black liquid	